



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR      | ATTORNEY DOCKET NO.   | CONFIRMATION NO. |
|---|-------------|---------------------------|-----------------------|------------------|
| 10/579,540  | 03/09/2007  | Catrina Helen M. Jamieson | STAN-340              | 8494             |
| 77974   | 7590        | 08/11/2009                | EXAMINER              |                  |
| Stanford University Office of Technology Licensing<br>Bozicevic, Field & Francis LLP<br>1900 University Avenue<br>Suite 200<br>East Palo Alto, CA 94303 |             |                           | BELYAVSKYI, MICHAEL A |                  |
|   |             |                           | ART UNIT              | PAPER NUMBER     |
|   |             |                           | 1644                  |                  |
|   |             |                           | MAIL DATE             | DELIVERY MODE    |
|   |             |                           | 08/11/2009            | PAPER            |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/579,540             | JAMIESON ET AL.     |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Michail A. Belyavskyi  | 1644                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 03 June 2009.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,3-10,15-23 and 26-35 is/are pending in the application.  
 4a) Of the above claim(s) 1,3-7 and 26-35 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 8-10 and 15-23 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 15 May 2006 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/05/07 and 01/10/07</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

1. Applicant's amendment, filed 06/03/09 is acknowledged.

*Claims 1,3-10,15-23, 26-35 are pending.*

2. Applicant's election with traverse of Group II, claims 8-10, now claims 8-10 and 15-23 in the reply filed on 06/03/09 is acknowledged. Applicant traverse the Restriction Requirement on the grounds that the search of Groups II and III together would not constitute a serious search burden on the examiner and that search of the claims of Group II would provide useful information for the claims Group III.

This is not found persuasive because the MPEP 803 (August 2001) states that "For purposes of the initial requirement, a serious burden on the examiner may be *prima facie* shown if the examiner shows by appropriate explanation either separate classification, separate status in the art, or a different field of search". The Restriction Requirement enunciated in the previous Office Action meets this criteria and therefore establishes that serious burden is placed on the examiner by the examination of more than one Group. The Inventions are distinct for reasons elaborated in paragraphs 3-5 of the previous Office Action and above

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 1, 3-7, 26-35 and are withdrawn from further consideration by the Examiner, 37 C.F.R. § 1.142(b) as being drawn to nonelected inventions.

*Claims 8-10 and 15-23 read on a method of selecting for a composition of LSC, that are Thy-1<sup>-</sup>, IL7R<sup>α</sup> and lineage panel are under consideration in the instant application.*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112.  
*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

5. Claims 15-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15-23 are indefinite and ambiguous in the recitation of “ further comprising determining the distribution of a progenitor cells between hematopoietic stem and progenitor subsets”. The preamble of base claim 8, recites a method of selecting LSC. The end result of said method is a subset of specific cells that are Thy-1<sup>-</sup>, IL7Rα<sup>-</sup> and lineage panel<sup>-</sup>. It is well known in the art that hematopoietic stem cells are characterized as being Thy-1 ( CD90)<sup>+</sup> while progenitor cells are IL7Rα<sup>+</sup>. Thus, it is unclear how one skilled in the art can determine the distribution of LSC, that are Thy-1<sup>-</sup> and IL7Rα<sup>-</sup> between cells, that are Thy-1 ( CD90)<sup>+</sup> and IL7Rα<sup>+</sup>.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 15-23 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. **This is a New Matter rejection.**

“ the method of claim 9, further comprising determining the distribution of progenitor cells between said subsets..” claimed in 15 represents a departure from the specification and the claims as originally filed and applicant has not pointed out where the support come(s) from.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) *the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.*

(b) *the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

9. Claims 8-10 are rejected under 35 U.S.C. 102(a) as being anticipated by Jamieson et al (IDS).

Art Unit: 1644

Jamieson et al., teach a method for selecting composition of leukemia stem cells comprising using reagents that are specifically recognize Thy-1 and IL-7R $\alpha$  ( see entire document).

10. Claims 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Petzer et al ( IDS) or Duhrsen et al (IDS)

Petzer et al ., and Duhrsen et al., each teach a method for selecting composition of leukemia stem cells comprising using reagents that are specifically recognize Thy-1 and IL-7R $\alpha$  ( see entire documents, Materials and Methods in particular).

The references teaching anticipates the claimed invention.

10. No claim is allowed.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michail Belyavskyi whose telephone number is 571/272-0840. The examiner can normally be reached Monday through Friday from 9:00 AM to 5:30 PM. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on 571/ 272-0735

The fax number for the organization where this application or proceeding is assigned is 571/273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Michail A Belyavskyi/  
Primary Examiner, Art Unit 1644

Application/Control Number: 10/579,540  
Art Unit: 1644

Page 5